166317

"Currier, Art" <CurrieA@ttemi.com> on 04/18/2001 12:05:53 PM

To: KEVIN TURNER
Subject: FW: Initial Comments on Design Report

Kevin,
Do you want the samples collected with hand augers or geoprobes on the Site Assessment work next week?

Below is the message from Rob Watson.

-----Original Message-----
From: Rob Watson
To: Currieа@ttemi.com
Sent: 4/18/01 7:09 AM
Subject: Initial Comments on Design Report

Art,

Per our conversation, here are my comments to date on the final version of the Design Report for the Sauget Area 1 TSCA Containment Cell. Please pass them on to Kevin Turner if you see or talk to him.

As we discussed, the major issue so far is the elevation of the secondary liner system relative to the high water table and 100-yr flood elevations.

Rob

1630200005 - St. Clair County
Sauget Area 1, Dead Creek
Sediment Containment Cell
Superfund/Technical File

Reviewer: Rob Watson

Review Dates: April 12, 2001 to

REVIEW NOTES

Introduction
At the request of USEPA, the Illinois EPA BOL Permit Section is assisting in the technical review of the Time Critical Removal Work Plan (TCRWP), Dead Creek Sediment and Soil in Sauget and Cahokia, Illinois. The initial submittal of this document was dated June 30, 2000. The focus of my review was the Containment Cell Design Report in Appendix 7.

Comments on the TCRWP (including the Design Report) by Illinois EPA, DNR, USFWS, and USEPA were sent to Solutia in mid-August 2000. Solutia considered these comments Part I comments. My comments on the Design Report were sent to USEPA and Solutia on August 31, 2000. These comments were considered Part II comments. Solutia divided the comments up into several groups and provided responses to comments from November 2000 through February 2001. These responses were incorporated into the document, and on April 2, 2001, Solutia provided the final version of the Sauget Area 1 TSCA Containment Cell Design Report.

The focus of my review, this time, is solely to determine whether each response to the Part II comments was properly included into the final version of the Design Report. A technical review was not specifically performed. Terri Blake Myers is responsible for conducting a concurrent review of the groundwater monitoring program for the containment cell.

Format of Review Notes
These review notes follow the format of the initial numbered comments on the Design Report. Only those comments that were not adequately addressed are indicated below.

Level of Review
Due to the limited review time allowed for this project, the references, assumptions and equations provided in the Design Report were generally taken at face value and not fully evaluated.

Comments

Section 1, Certification Statement: The standard RCRA certification wording at 35 AIC 702.126(d)(1) needs to be included in the P.E.'s certification. In addition, a certification from the facility owner/operator, using the wording at 35 IAC 702.126(d)(1), should also be provided.

Comment 2: Section 2 of the Design Report should include wording that indicates a groundwater monitoring plan for the TSCA containment cell is being reviewed concurrently with the construction of the containment cell. In addition, it should state that the groundwater monitoring program will be in place, with at least one round of background samples collected, prior to placement of wastes in the containment cell.

Note: the response to Comment 8, and Section 4.1.1 states the HDPE geomembrane for the primary liner will be smooth surfaced and the HDPE geomembrane for the secondary liner will be textured

Comment 10: The response to Comment 10 states Section 5.0 will be revised to include a paragraph that indicates the sediments placed against the side slopes will be screened to remove sharp objects and other materials larger than 2 inches. First, it appears that Section 4 is a more appropriate location for this wording. However, I could not locate the referenced paragraph in either Section 4 or 5. Second, although the wording in Section 3.3.F in Specification 02225 was revised to address this issue, it does not specifically state that the 2 foot buffer layer of screened sediments will extend up the entire length of the side slope. The wording in Specification 02225 should be revised to more closely resemble the paragraph in the response to Comment 10.

Comment 11: In the October 10, 2000 meeting and the January 15, 2001 response to comments Part II, Group II, Solutia agreed, that to the extent practicable, the more highly contaminated material (e.g. Segment B sediments) would be placed more to the middle of the fill, not near the bottom or sides in an effort to better protect the soils and groundwater outside of the landfill. The narrative in the Design Report (Section 4) and Specification 02225 need to be revised to include this provision.

Comments 12 & 18: Neither the bedrock surface map, Figure 3-4, or the geologic cross section of the site, Figure 3-5 was not provided. The geologic cross section also needs to show the location and elevations of the landfill, the formations under the unit, the historic high levels of the groundwater and the seasonal fluctuations in the water table measured in the piezometers and monitoring wells at or near the site.

In addition, the locations of the borings and monitoring wells used to develop the cross section need to be indicated on a plan view of the area/region. Note: the revised geologic cross section was suppose to be provided with the Part III, Group III submittal dated February 16, 2001, but was not provided at that time.

Section 4.1.2, Liner System Location Relative to High Water Table: The minimum elevation of the secondary liner system used to be 400 feet msl. This section of the document now indicates the minimum elevation will be 398.8 feet. The historical high water elevation for the monitoring wells east of the Mississippi levee in the vicinity of the site was indicated to be between 397.0 and 400.3 feet. The recent (3rd quarter 1999) high groundwater level in the containment cell vicinity was 399.0 feet. This section of the document needs to describe the impact of a water table that is above the bottom liner system on the construction and operation of the landfill. Will water be pumped from the capillary break layer sump if this condition is reached? What actions will be taken during a 100-year flood event (elev. 406 feet)? The response to this comment should be coordinated with the comment on Section 4.2.6 below.

Comments 15, 17, 18, 19, 22, 23, 25, 26, 27, 35, 36, et.al.: The responses to these comments states the comment is to be addressed in the December 29, 2000 Response to Comments Part III. This is not acceptable. The response to each of these comments needs to be included in this final version of the Design Report. Finally, there was no December 29, 2000 response to comments Part III. The Group III responses to comments were dated January 22, 2001.

Comment 20: The laboratory testing data (Table 1) for borings GB-1, through GB-4 and P2-1 from the initial site characterization report were omitted from the final version. This information needs to be included in the final version of the report.

Comment 25: The discussion regarding hydrostatic uplift in Section 4.2.6 and the calculations provided in Appendix B assumes a water elevation of 400feet (which is approximately the same as the high water table elevation). The potential for hydrostatic uplift should be reevaluated using the 100-year flood elevation of 406 feet. An initial evaluation of this situation shows that the uplift pressure from a 100-year flood event would be greater than the weight of the liner system before waste is placed in the cell. Therefore, liner system could be damaged if the containment cell is exposed to 100-year flood conditions before waste is placed in the cell. The calculations and narrative in Section 4.2.6 may need to be revised based on this reevaluation.

Section 4.2.6 also states that the highest groundwater elevation observed at the site was over 8 feet below the proposed secondary liner elevation. The available information indicates that the highest groundwater elevation at the site is approximately the same as the secondary liner at 399 feet. Therefore, the narrative should be revised, as it is misleading.

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